

WHAT IS CLAIMED IS:

1. A method for depositing flux on a semiconductor chip, the method comprising the steps of:

determining an arrangement pattern of a plurality of flip-chip bumps formed on a surface of a semiconductor chip; and

5 jet printing a flux pattern on the flip-chip bumps, the flux pattern corresponding substantially identically to the arrangement pattern of the plurality of flip-chip bumps.

2. The method of claim 1, further comprising the step of transporting the semiconductor chip to a predetermined location for jet printing the flux pattern on the flip-chip bump.

3. The method of claim 2, wherein the step of transporting the semiconductor chip further comprises the step of transporting a plurality of semiconductor chips successively to the predetermined location for jet printing the flux pattern.

4. The method of claim 1, wherein the step of determining the arrangement pattern further comprises the steps of:

transforming the arrangement pattern of the plurality of flip-chip bumps into computer-recognizable data; and

5 storing the computer-recognizable data in data storage.

5. The method of claim 4, wherein the step of jet printing the flux pattern further comprises the steps of:

determining the flux pattern based on the computer-recognizable data stored in the data storage; and

5 jet printing the flux pattern to selectively deposit flux substantially only on the plurality of flip-chip bumps.

6. An apparatus for depositing flux on a semiconductor chip, the apparatus comprising:

a support for positioning the semiconductor chip at a predetermined location for depositing flux, the semiconductor chip having a plurality of flip-chip bumps arranged on its surface; and

a jet printing head for printing a flux pattern, on the flip-chip bumps, the flux pattern substantially identical to an arrangement pattern of the plurality of flip-chip bumps on the semiconductor chip, such that the flux is deposited substantially only on the flip-chip bumps.

7. The apparatus of claim 6, further comprising data storage storing an arrangement pattern of the flip-chip bumps on the semiconductor chip.

8. The apparatus of claim 7, wherein the arrangement pattern is stored in computer-recognizable data in the data storage.

9. The apparatus of claim 8, wherein the jet printing head prints the flux pattern based on the computer-recognizable data stored in the data storage.

10. The apparatus of claim 7, wherein the jet printing head is capable of printing a plurality of flux patterns corresponding to a plurality of arrangement patterns of flip-chip bumps of semiconductor chips by storing the plurality of arrangement patterns in the data storage.

11. The apparatus of claim 6, wherein the support is a conveying plate transporting the semiconductor chip to the predetermined location for printing the pattern on the flip-chip bumps.

12. The apparatus of claim 11, wherein the conveying plate transports a plurality of semiconductor chips successively arranged thereon to the predetermined location for printing the pattern.

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